

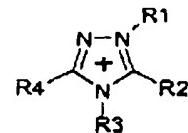
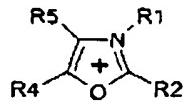
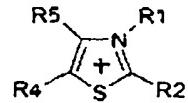
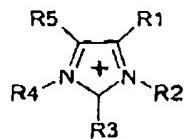
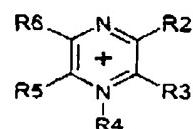
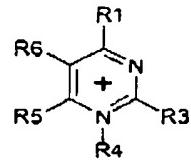
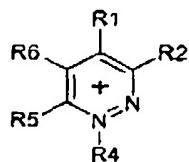
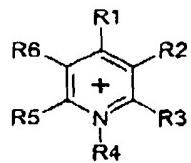
LISTING OF CLAIMS

1. (Currently Amended) An ionic liquid of the general formula



wherein:

K^+ is a cation selected from:



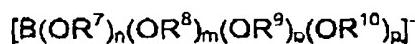
wherein

R^1 to R^6 are identical or different and are each individually

- H,
- a halogen,

- an alkyl radical (C₁ to C₈), which is unsubstituted, or which is partially or fully substituted by F, Cl, N(C_nF_(2n+1-x)H_x)₂, O(C_nF_(2n+1-x)H_x), SO₂(C_nF_(2n+1-x)H_x) or C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13
- a phenyl radical which is unsubstituted or which is partially or fully substituted by F, Cl, N(C_nF_(2n+1-x)H_x)₂, O(C_nF_(2n+1-x)H_x), SO₂(C_nF_(2n+1-x)H_x) or C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or
- one or more pairs of adjacent R¹ to R⁶ can also be an alkylene or alkenylene radical and having up to 8 C atoms, wherein the radical is unsubstituted or partially or fully substituted by halogen, N(C_nF_(2n+1-x)H_x)₂, O(C_nF_(2n+1-x)H_x), SO₂(C_nF_(2n+1-x)H_x) or C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13

wherein A⁺ is an anion selected from



wherein

0≤n, m, o, p≤4, and n+m+o+p=4, and

R⁷ to R¹⁰ are different or identical and are each, individually:

an aromatic ring selected from a phenyl, naphthyl, anthracenyl and phenanthrenyl ring, which is unsubstituted, or which is monosubstituted or polysubstituted by C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or halogen.

an aromatic heterocyclic ring selected from a pyridyl, pyrazyl and pyrimidyl ring, which is unsubstituted, or which is mono-substituted or polysubstituted by C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or halogen,

or

an alkyl radical (C_1 to C_8), which is unsubstituted, or which is partially or fully substituted by F, Cl, $N(C_nF_{(2n+1-x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$, or $C_nF_{(2n+1-x)}H_x$, wherein $1 < n < 6$ and $0 < x \leq 13$,

and wherein one or more pairs of R^7 to R^{10} can also form

an aromatic ring selected from a phenylene, naphthylene, anthracenylenne and phenanthrenylene ring, which is unsubstituted or an aromatic ring selected from a phenylene, naphthylene, anthracenylenne and phenanthrenylene ring which is monosubstituted or polysubstituted by $C_nF_{(2n+1-x)}H_x$, wherein $1 < n < 6$ and $0 < x \leq 13$, or halogen,

an aromatic heterocyclic ring selected from a pyridylene, pyrazylene and pyrimidylene ring, which is unsubstituted, or which is mono-substituted or polysubstituted by $C_nF_{(2n+1-x)}H_x$, wherein $1 < n < 6$ and $0 < x \leq 13$, or halogen,

or

an alkylene or alkenylene radical having up to 8 C atoms and which is unsubstituted or which is partially or fully substituted by halogen, $N(C_nF_{(2n+1-x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$ or $C_nF_{(2n+1-x)}H_x$ wherein $1 < n < 6$ and $0 < x \leq 13$

or OR^7 to OR^{10} , individually or together,

are an aromatic having 6 to 14 C atoms and which is a carboxyl, dicarboxyl, oxysulfonyl or oxycarbonyl radical, which is unsubstituted, or which is partially or fully substituted by F, Cl, $N(C_nF_{(2n+1-x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$ or $C_nF_{(2n+1-x)}H_x$, wherein $1 < n < 6$ and $0 < x \leq 13$

or

are aliphatic having 1 to 6 C atoms and which is a carboxyl, dicarboxyl, oxysulfonyl or oxycarbonyl radical, which is unsubstituted, or which is partially or fully substituted by F, Cl, N($C_nF_{(2n+1-x)}H_x$)₂, O($C_nF_{(2n+1-x)}H_x$), SO₂($C_nF_{(2n+1-x)}H_x$) or $C_nF_{(2n+1-x)}H_x$, wherein 1< n<6 and 0<x≤13.

2. (original claim) An ionic liquid according to claim 1, wherein at least one of R¹ to R⁶ of the cation is an alkyl radical which is unsubstituted or partially or fully substituted by F, Cl, N($C_nF_{(2n+1-x)}H_x$)₂, O($C_nF_{(2n+1-x)}H_x$), SO₂($C_nF_{(2n+1-x)}H_x$) or $C_nF_{(2n+1-x)}H_x$ wherein 1< n<6 and 0<x≤13.

3 (original claim) An ionic liquid according to claim 1, wherein at least one of R¹ to R⁶ of the cation is a phenyl radical which is unsubstituted or partially or fully substituted by F, Cl, N($C_nF_{(2n+1-x)}H_x$)₂, O($C_nF_{(2n+1-x)}H_x$), SO₂($C_nF_{(2n+1-x)}H_x$) or $C_nF_{(2n+1-x)}H_x$ wherein 1< n<6 and 0<x≤13.

4. (original claim) An ionic liquid according to claim 1, wherein at least a pair of R¹ to R⁶ of the cation is an alkylene or alkenylene radical which is unsubstituted or partially or fully substituted by halogen, N($C_nF_{(2n+1-x)}H_x$)₂, O($C_nF_{(2n+1-x)}H_x$), SO₂($C_nF_{(2n+1-x)}H_x$) or $C_nF_{(2n+1-x)}H_x$ wherein 1< n<6 and 0<x≤13.

5. (original claim) An ionic liquid according to claim 1, wherein at least one of R⁷ to R¹⁰ of the anion is an alkyl radical which is unsubstituted or partially or fully substituted by F, Cl, N($C_nF_{(2n+1-x)}H_x$)₂, O($C_nF_{(2n+1-x)}H_x$), SO₂($C_nF_{(2n+1-x)}H_x$), or $C_nF_{(2n+1-x)}H_x$ wherein 1< n<6 and 0<x≤13.

6. (original claim) An ionic liquid according to claim 1, wherein at least one pair of R⁷ to R¹⁰ of the anion is an alkylene or alkenylene radical which is unsubstituted or partially or fully substituted by a halogen, N(C_nF_(2n+1-x)H_x)₂, O(C_nF_(2n+1-x)H_x), SO₂(C_nF_(2n+1-x)H_x) or C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13.

7. (currently amended) An ionic liquid according to claim 1, wherein at least one of R⁷ to R¹⁰ of the anion is an aromatic ring selected from a phenyl, naphthyl, anthracenyl and phenanthrenyl ring, which is unsubstituted, or which is monosubstituted or polysubstituted by C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or by a halogen.

8. (currently amended) An ionic liquid according to claim 1, wherein at least one of R⁷ to R¹⁰ of the anion is an aromatic heterocyclic ring selected from a pyridyl, pyrazyl and pyrimidyl ring, which is unsubstituted, or which is monosubstituted or polysubstituted by C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or by a halogen (F, Cl or Br).

9. (currently amended) An ionic liquid according to claim 1, wherein at least one pair of R⁷ to R¹⁰ of the anion is an aromatic ring selected from a phenylene, naphthylene, anthracenylene and phenanthrenylene ring, which is unsubstituted or a phenylene, naphthylene, anthracenylene and phenanthrenylene ring, which is monosubstituted or polysubstituted by C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or halogen.

10. (original claim) An ionic liquid according to claim 1, wherein at least one pair of R⁷ to R¹⁰ of the anion is an aromatic heterocyclic ring selected from a pyridylene, pyrazylene and pyrimidylene ring, which is unsubstituted, or which is mono-substituted or polysubstituted by C_nF_(2n+1-x)H_x wherein 1<n<6 and 0<x≤13, or by halogen.

11. (withdrawn) An electrochemical cell comprising a cathode, an anode, a separator, and the ionic liquid of claim 1.

12. (withdrawn) A supercapacitor comprised of at least a pair of electrodes, a separator, and the ionic liquid of claim 1.

13. (withdrawn) An electrolyte composition comprising an ionic liquid of claim 1 and an aprotic solvent.

14. (withdrawn) An electrolyte composition comprising an ionic liquid of claim 1 and a conductive salt.

15. (original claim) A method for making an ionic liquid according to claim 1, comprising reacting a chloride salt of the formula K^+Cl^- with a lithium salt of the formula Li^+A^- within an aprotic solvent.

16. (currently amended) A compound according to claim 1, wherein said compound is selected from :

1-ethyl-3-methylimidazolium bis [1,2-benzenediolato-O,O'] borate,

1-ethyl-3-methylimidazolium bis[oxalato]borate, or and

1-ethyl-3-methylimidazolium bis[salicylato]borate.

17. (currently am nd d) A compound according to claim 4 16, wherein said compound is:

1-ethyl-3-methylimidazolium bis [1,2-benzenediolato-O,O'] borate.

18. (new) A compound according to claim 1, wherein A⁻ is bis[oxalato]borate,

or

bis[salicylato]borate.